

**Testimony of the Business Council for Sustainable Energy  
Before the House Committee on Energy and Commerce  
Subcommittee on Energy and Air Quality**

**Legislative Proposals to Reduce Greenhouse Gas Emissions: An Overview  
June 19, 2008**

Mr. Chairman and Members of the Subcommittee:

My name is Lisa Jacobson, Executive Director of the Business Council for Sustainable Energy. I appreciate the opportunity to testify before the Subcommittee today to provide the Council's views on several of the leading climate change bills under consideration by Congress and how they address the issues of critical importance to our members.

The Council is an industry coalition that includes businesses and trade associations representing currently available technology options for reducing greenhouse gas emissions that contribute to global climate change. They include: advanced batteries, biomass, biogas, fuel cells, geothermal, hydropower (including new waterpower resources such as ocean, tidal and instream hydrokinetic), natural gas, solar, wind, and supply-side and demand-side energy efficiency.

The organization was formed in 1992 by executives in the renewable energy, natural gas and energy efficiency industries and has since advised policymakers at state, regional, federal and international levels on the design of market-based environmental programs, including cap-and-trade models and other relevant policies.

The Council has provided extensive comments on major design elements of a federal, economy-wide cap-and-trade program. Our members assess the provisions of various bills in a holistic manner – with a benchmark focused on immediate and long-lasting clean energy deployment signals. Whether pending bills will drive existing technology deployment between now and 2020 depends on the

allowance value directed to existing clean energy technologies, and whether the legislation includes complementary energy policies to increase clean energy investment, deployment and certainty.

It is important to note that as a diverse business coalition, not all Council members endorse or take positions on the entire set of recommendations provided below.

Cost-effective opportunities exist today to help achieve the nearly 80 percent reduction in greenhouse gas emissions called for in pending climate change proposals.<sup>i</sup> An integrated federal energy and climate policy approach will produce immediate benefits and pave the way for a secure energy future.

In addition to the emission reduction benefits, deployment of existing clean energy technologies will:

- Foster U.S. economic growth and create new high-quality jobs
- Enhance energy security and independence
- Provide affordable, available clean energy choices for consumers
- Lower the cost of compliance with federal greenhouse gas emissions reduction programs
- Increase the ability of the U.S. to meet mid-term and long-term emission reduction objectives for greenhouse gas emissions and other criteria pollutants
- Strengthen the electricity industry infrastructure and reliability

## **Initial Steps**

To tackle the challenge of global climate change, all technologies at our disposal will be required over a long time horizon. However, between now and 2020, existing clean energy technologies such as renewable energy, energy efficiency and cleaner fuels such as natural gas are the viable, readily available solutions. While assumed, new and/or additional technologies for achieving greenhouse gas emission reductions may be fully deployed and cost effective by the 2020 to 2030 time-period, there is a very real possibility that they may not. However, deploying existing clean energy technology, such as renewable energy and supply-side and demand-side energy efficiency as soon as possible will reduce greenhouse gas emissions and help mitigate consumer impacts.

Indeed, to some degree these technologies provide a critical option during the transition to a greenhouse gas constrained economy -- beyond their benefits for emissions reductions. The fact that Congress and the U.S. Environmental Protection Agency are now seriously addressing our greenhouse gas policies will make the financing of some energy infrastructure more difficult due to the uncertainty of the market rules in coming years. Future options for other low emitting technologies are either not yet commercially viable, or would be difficult to permit and develop within the near-term. Yet the U.S. Energy Information Administration projects continued domestic electric demand growth over that period. The technologies represented by the Council can step into that gap and ensure that we continue to meet the energy needs of the country during this transition. But today such technology deployment faces market barriers that Congress needs to address immediately if it is to fulfill this potential.

By implementing policies that drive immediate clean energy investments, our nation increases its flexibility and likelihood to achieve our long-term climate change mitigation goals at affordable costs to consumers and businesses. *For all of these reasons, deployment of existing clean energy technologies is the essential, first phase solution for the U.S. to reduce greenhouse gas emissions.*

### **Existing Clean Energy Technology Deployment is the Vital First Phase of US Climate Change Strategy**

Through the greater use of renewable energy resources, clean energy fuels and increased supply-side and demand-side energy efficiency investments, real and measurable greenhouse gas reductions can be realized, contributing to:

1. lower overall economic costs for businesses and consumers;
2. a healthier, more sustainable environment; and,
3. stimulation of U.S. employment and economic growth in the clean technology sector.

Understanding the time it may take for Congress to adopt a federal climate change bill coupled with the urgency to act, Congress has the opportunity to pass a package of policies, such as those being put forward under the Council's Clean Energy Technology Deployment Path to Climate Solutions Act (CETDP). Adoption of the Clean Energy Path proposal will speed the deployment of a broad range of existing clean energy technologies and begin to make real and measurable greenhouse gas reductions. Moving forward with a strong clean energy deployment strategy can be

done now, while Congress deliberates the design of a federal climate change program. This will provide a down payment on greenhouse gas reduction and start the nation down a clean energy path.

### **Business Council for Sustainable Energy's Views on Federal Climate Change Legislation**

In reviewing the five federal climate change bills under consideration by the House Energy and Commerce Subcommittee Energy and Air Quality, it is important to acknowledge the leadership of the bill sponsors and the valuable contributions their proposals are making in the development of historic, federal climate change legislation. Second, it is noteworthy that all five legislative proposals adopt or contemplate the establishment of an economy-wide cap-and-trade program. The Council supports market-based cap-and-trade models as a means to ensure lower cost compliance with emission targets for covered entities, businesses and consumers. Cap-and-trade models also offer environmental integrity through the imposition of an emissions cap with the incentives under the trading provisions for over compliance and technology innovation. As with other large-scale economy-wide policies, the design of the market will be critical to how effectively and efficiently any given proposal will achieve its objectives. In the Council's testimony, we will outline some of the key provisions in the five bills that will be effective drivers for existing clean energy technology deployment.

A federal climate change program should send predictable medium- and long-term signals to capital markets -- providing certainty about the emissions reductions to be achieved and directing new

investments in low- and zero-carbon resources technologies. A national climate change program should:

- Incorporate a mandatory, economy-wide and market-based approach
- Establish near-term and long-term targets to signal the marketplace and drive capital investments in existing technology and innovation
- Establish linkages with domestic and international greenhouse gas emissions reduction programs and markets
- Expand alternative energy resources from clean energy and energy efficiency technologies
- Recognize and reward improvements in both supply- and demand-side energy efficiency
- Include policies in addition to market programs to drive new technology
- Drive energy efficiency improvements in new and existing buildings

The Council believes that Congressional direction would speed the transition to a clean energy path that increasingly utilizes existing technologies. This will be especially important in the early phase of program implementation when other emission reduction options are not yet available.

To advance the clean energy path, a comprehensive approach to the design of market-based climate change legislation is required. The Council strongly believes that the design must include the following:

1. Allowance value, in the form of allowance allocations and/or auction proceeds, directed to reduce program costs and to clean energy and energy efficiency investments;

2. The adoption of a package of complementary energy policies to enable rapid market expansion. This should include multi-year extensions of clean energy investment tax credits (ITC) and production tax credits (PTC), clean renewable energy bonds (CREBs) as well as a national Renewable Electricity Standard and a national Energy Efficiency Resource Standard; and expansion of the transmission grid
3. A robust, high-quality carbon offset program to drive new technology investments in uncapped sectors and contain costs; and
4. Recognition and credit for early action taken by businesses and other entities to reduce emissions.

The analysis below covers how several of the leading bills currently under consideration by Congress address these issues.

### **1) Allowance Value as a Driver for Existing Clean Energy Technology Deployment**

The Council recommends that allowance value through free allowance distribution, set-aside pools and auction proceeds be directed at deployment and investment in existing clean energy technologies.

#### ***Free, Transition Allocation Pools to Generators***

The Council firmly maintains that any free allowances be distributed to covered entities in the power sector based on the efficiency of their total power generation (both electrical power and heat),

through output-based approaches. An output-based approach focuses on carbon-energy efficiency and promotes clean generation – including renewable energy – since distribution is based on the amount of power generated, not on the amount of fuel used or a facility’s historic emissions. The Council recommends a fuel-neutral (rather than fuel-weighted), updating, output-based allocation that rewards greater efficiency and encourages investment in new generating technologies.

Output-based allocation approaches send needed signals to the marketplace that reward, recognize and drive investment in clean, efficient energy technologies and provide further incentives for renewable energy generation. In looking at the various bills under discussion at this hearing, we would like to highlight the precedents for output-based allocation in the Lieberman – Warner America’s Climate Security Act of 2007 (S. 2191) and the Boxer Substitute (S. 3036). While both bills grant covered entities emission allowances based on their historic emission levels, S. 2191 includes a New Entrant Set-Aside provision that employs an output-based allocation for fossil generators. The Council recommended changes to the allocation provisions as well as expansion of the New Entrant Set-Aside to renewable energy generators. S. 3036, the Boxer Substitute, removed the New Entrant Set-Aside, but did provide an output-based allocation approach under the Load Distribution Company allocation, by distributing emissions allowances based on sales.

### ***Set-Aside Allocation Pools***

Another mechanism to direct allowance allocations to new, clean energy generation is through set-aside allowances pools. S. 3036 provides an important set-aside to renewable energy generators by distributing 4 percent of the free, unallocated emission allowances to renewable energy programs



and generators between the years 2012-2030; renewable energy receives 1 percent of free allowances from 2031-2050 (Title VIII, Subtitle D). It is estimated that this set-aside will provide \$150 billion through 2050 to owners or operators of facilities that deploy renewable energy technologies.

The Council strongly supports the direct allocation of allowances to renewable energy and believes that this is an improvement over S. 2191, specifically. Of note, the Council seeks opportunities to improve the distribution mechanism under this provision to make it more predictable and more effective at driving investment.

On energy efficiency, many of the bills provide opportunities to invest in energy efficiency through their set-aside allowance pools. For example, S. 2191, S. 1766 and S. 3036 provide free allocations to states that are able to use the allowances to support investments in energy efficiency, among other options. It is important that energy efficiency (as well as other existing technology options) be eligible for allowance value under multiple areas of the bill, given their important role in helping to meet emission reduction targets. Additionally, it is critical that provisions aimed at increasing investments in energy efficiency be front-loaded and clearly defined.

For example, S. 3036 made important strides to address these challenges. Specifically, the Boxer Substitute added a specific title on energy efficiency (Title VIII) as well as authorizing existing and new energy efficiency programs. The Council also appreciates the inclusion of specific programs aimed at increasing energy efficiency in key sectors and with key constituencies through the efficient building programs and the Super-Efficient Equipment and Appliance Deployment

(SEAD) programs (Title I, Subtitle B and Title VIII). It is estimated that the SEAD program and the energy efficiency building program would receive \$51 billion respectively through 2050.

Finally, federal climate change bills should consider the inclusion of a set-aside for new entrants.

This provides the opportunity to encourage new, lower-emitting resources to come on line. As stated above, S. 2191 includes a New Entrant Set-Aside and the Bingaman – Specter Low Carbon Economy Act (S. 1766) also includes a set-aside for new entrants.

### ***Auctions and Use of Auction Proceeds***

All but one of the legislative proposals under discussion at this hearing include specific provisions that establish an auction as a vehicle to distribute emissions allowances under a cap-and-trade program. The Council does not have specific recommendations on the scale and phase-in of auction programs, but our members recommend a hybrid allocation approach with a phase-in period, as several of the bills include (S. 1766, S. 2191, S. 3036). This will minimize possible dramatic economic impacts that a large-scale auction might have on affected sources in the initial phases of the program. Further, should an auction be pursued, the Council strongly recommends the targeted use of auction revenue to existing clean energy technology investment and deployment.

The Council has worked actively with Congress to front-load, expand and better define auction proceeds directed to existing clean energy technologies. Further, the Council calls for, at minimum, equal treatment of existing clean energy technologies in the proposed distribution of auction proceeds as a percentage carve out on par with the other auction revenue priorities.

Under the current legislative proposals, existing clean energy technologies are eligible for auction proceeds under several different program areas. Under H.R. 6186, the Investing in Climate Action and Protection Act, existing clean energy technologies are significant recipients of auction proceeds. 12.5 percent of auction funds, estimated at \$963 billion over the life of the program (or \$24 to \$25 billion annually), are directed to support a Low-Carbon Technology Fund. In addition, 12.5 percent of auction proceeds are directed to support a National Energy Efficiency Fund.

The Low-Carbon Technology Fund would support research, development and deployment of technology, with 80 percent allocated for renewable energy and energy efficiency (35 percent for renewable energy and energy efficiency research, development, and demonstration; 40 percent for renewable energy deployment incentives; and 5 percent for distributed renewable energy technologies). Of note, included in the Low-Carbon Technology Fund are two new programs to deploy renewable energy via production payments through a reverse auction and rebates for the purchase and installation of distributed generation technologies such as solar panels.

The National Energy Efficiency Fund supports incentive payments to states based on the level of energy savings achieved each year through consumer efficiency programs, and awards grants to states that adopt and implement building efficiency and recycling policies. This fund also supports weatherization programs and efficient transit initiatives.

S. 2191 and S. 3036 both include a low- and zero-carbon energy deployment program that enables generators and manufacturers to receive auction revenue to support investment. A challenge with

the approach taken in these bills is that it is not certain how much of these resources would go to existing technology, as they would be in competition with other technology investments.

On renewable energy, S. 2191 originally included an auction proceed pool specifically for renewable energy, entitled the Sustainable Energy Program. This provision was valuable as it dedicated a significant fund for renewable energy investments supported by auction funds – in addition to the low- and zero-carbon programs. However, this provision was not included in the Boxer Substitute, S. 3036.

In summary, the Council urges that any free allocation pools – including set-asides – be distributed based on efficiency, using output-based metrics when appropriate. This will ensure that the market is signaled to invest in supply-side efficiency, and low-and zero emissions energy sources. Further, existing clean energy technologies should be primary recipients of allowance value through auction proceeds. Auction revenues provide essential funding to achieve near-term emission reductions through clean energy technology investments.

## **2) Integrating Energy and Climate Change Policy and the Inclusion of Complementary Energy Policies in Climate Change Legislation**

As stated above, it is essential that Congress include an aggressive clean energy technology deployment strategy as soon as possible to drive near-term greenhouse gas emission reductions as the costs of inaction will be significantly higher. The cap-and-trade approach provides vital signals to the economy that integrate the cost of greenhouse gas emissions over a long time-period.

However, the direct price signals established by the cap-and-trade program alone will not deploy needed energy efficiency and clean generation investments as quickly as needed and on the scale that is needed. Further, significant regulatory and market barriers exist that will require policy changes that the market design of a cap-and-trade program will not address.

The Council has developed a comprehensive Clean Energy Technology Deployment Path to Climate Solutions Act (CETDP). The CETDP authorizes the creation, expansion and extension of a balanced set of federal policies that will deploy proven and commercially available clean energy technologies to achieve climate change mitigation goals. The CETDP can be integrated into a national, economy-wide greenhouse gas emissions reduction strategy, move as a stand-alone package or as individual bills – the critical point is that the nation cannot afford to delay.

### ***Critical Elements of the Clean Energy Deployment Path Proposal***

- Renewable Electricity Standard (RES)
- Energy Efficiency Resource Standard (EERS)
- Tax and/or comparable clean energy technology incentives to more widely deploy existing clean energy technologies and projects (PTC, ITC, CREBs)
- Expand the transmission grid
- Energy efficiency savings programs in the form of codes, standards and incentives to promote carbon-efficient buildings and appliances and combined heat and power (CHP)
- Research and development for deployment of emerging technologies

These elements should result in a balanced and integrated program providing accurate, cost-based price signals to promote wise use of energy and reduce energy use at peak times; avoid programs

that would encourage inefficient use or production of energy; and encourage additional generation with the right size, location and operation times to have real, positive impacts on the grid and on customer cost.

Implementation of these policies should be carefully designed to recognize and reward accomplishments of individual states, consumers and entities within those states, including reducing greenhouse gas emissions, increasing renewable energy generation and enhancing efficient use of energy – through programs, equipment and installation, and through building and appliance codes.

The urgent need to adopt policies that deploy existing clean energy technologies is reflected in most of the federal climate change bills under consideration by the Subcommittee. H.R. 1590, the Safe Climate Act of 2007 offers the most comprehensive set of policy provisions, such as the inclusion of a Renewable Electricity Standard whereby renewable energy would reach 20 percent of the US generation mix by 2020. It also includes a strong energy efficiency resource standard.

Several bills have important building sector policies, including national targets for building codes (H.R. 6186, S. 2191 and S. 3036) that the Council wholeheartedly supports. In addition, these bills include needed incentives for states to implement and enforce code changes. H.R. 6186 in particular includes large-scale funding to implement building code change through its National Energy Efficiency Fund.

### **3) Offsets as a Technology Deployment and Cost Containment Instrument**

The Council has supported the use of offsets as a means to generate lower-cost reductions and drive technology innovation. In contrast to alternative cost containment measures, the use of offsets does not dilute the price signals created by the cap-and-trade program, but does help to lower the cost of compliance and achieve emission reductions that are consistent with the objectives of the program. This is especially important in the near-term, prior to availability of advanced technologies.

Under a compliance offset program, covered entities are permitted to help meet their obligation to reduce greenhouse gas emissions by purchasing offset allowances generated from projects or activities that fall outside the scope of an emissions cap. This flexibility provides covered entities with cost-effective emission reductions and can help promote technological deployment and innovation. The availability of lower-cost emissions reductions lessens the economic impact of the program on consumers and businesses, while generating immediate environmental benefits. For this reason, offset programs have been included in existing climate change programs inside and outside the U.S., and should be valued as an important design feature of federal climate change legislation.

As with other aspects of market-based initiatives to address climate change, the details and structure of a federal offset program will play a critical role in determining successful implementation, as well as achieving desired greenhouse gas emission reductions.

The Council released a paper in September 2007 that detailed recommendations for the development of a federal offset program.<sup>ii</sup> In that paper, the Council emphasized the importance of a high

integrity offset program that credited real, additional, permanent, independently verifiable, measurable and transparent offsets. Ensuring the environmental integrity of offsets is fundamental to meeting desired emissions reductions levels. Verifiable and surplus offsets must be the standard for program integrity. In addition, independent, third-party monitoring and verification requirements must be in place to ensure that greenhouse gas emissions reductions are delivered.

In reviewing the five bills under consideration, the Council is pleased that all proposals establish or contemplate an offset program as part of a national climate change program.

Most of the bills have specific quantitative limitations on the amount of domestic offsets and international offsets (allowances and/or project-based credits) that a covered entity can use to meet its emission reduction obligation. S. 1766 does not include a domestic limitation in the proposal, and allows international offsets subject to a recommendation by the President up to a limit of 10 percent. S. 2191, S. 3036 and H.R. 6186 limit both domestic offsets to 15 percent of an entities compliance obligation and international offsets to 15 percent of an entities compliance obligation.

In all these legislative proposals, the Council seeks to encourage more workable offset provisions, such as the inclusion of a multi-year crediting period, and removal of financial additionality tests. Furthermore, since offset projects can take years to design and develop, covered entities and consumers will benefit if the federal government can begin establishing the rules, oversight and accounting mechanisms of an offset program as soon as possible – even independently of the passage of climate change legislation.



The Council also maintains that verified, high-quality international offset allowances and project-based credits should be eligible for recognition within a U.S. cap-and-trade program, regardless of the location where they are generated. We are pleased that several of the climate bills under consideration by the Subcommittee allow covered entities to meet part of their emission obligation through international offsets (S. 1766, S. 3036). This is especially important for cost containment, as recent analysis of S. 2191 performed by the U.S. Energy Information Administration showed the exclusion of international offsets caused the price of U.S. allowances to more than double in the early years of the program and increase by almost 40 percent in later years.<sup>iii</sup>

Of note, the Council was pleased that the Boxer Substitute (S. 3036) permits up to 5 percent of international offsets to be generated by project-based activities, opening the opportunity for international credits, such as those recognized under the Clean Development Mechanism (CDM) of the Kyoto Protocol, to be eligible under the US program. This is an improvement over the provisions in S. 2191.

The Council would like to call your attention to an amendment to the Boxer Substitute that was offered by Senator Stabenow and co-sponsored by Senators Warner and Lieberman that would have modified the offsets framework. While the Council did not support all elements of the amendment, it was a useful start and deserves consideration as this chamber considers the design of an offset program.

#### **4) Credit for Early Action to Recognize Existing Clean Energy Technology Investments**

The Council appreciates the inclusion of a credit for early action program within several of the legislative proposals under review by the Subcommittee. Recognition for early action is provided in

specific set-aside pools for entities as well as states. The Council believes early investments in greenhouse gas reductions should be recognized within a federal greenhouse gas program.

Rewarding emission reductions that occur in advance of the enactment of the program has the potential to generate economic and environmental benefits, as well as hasten clean-energy technology deployment. High-quality mandatory programs at the state level, such as those in Oregon, Washington and Massachusetts, which have affected new power generation facilities in those states over the past decade or more, should be recognized in any future federal legislation.

Likewise, a federal climate change program should recognize early actions that have been made or will be made under California's landmark greenhouse gas program (AB 32), as well as those that fall under the Regional Greenhouse Gas Initiative. Companies making voluntary early reductions want assurances that they will not be penalized later for reducing greenhouse gas emissions in advance of a national, mandatory program.

To ensure transparency, the Council recommends that federal legislative proposals include specific criteria to guide the Administrator of the federal greenhouse gas program on eligibility for early action allowances.

On behalf of the members of the Business Council for Sustainable Energy, thank you for the opportunity to share our views on several leading climate change legislative proposals. We appreciate the Subcommittee's leadership in development of landmark federal climate change legislation and offer our coalition as a resource.

## APPENDIX A

### Growth of Clean Tech Sectors and U.S. Job Creation

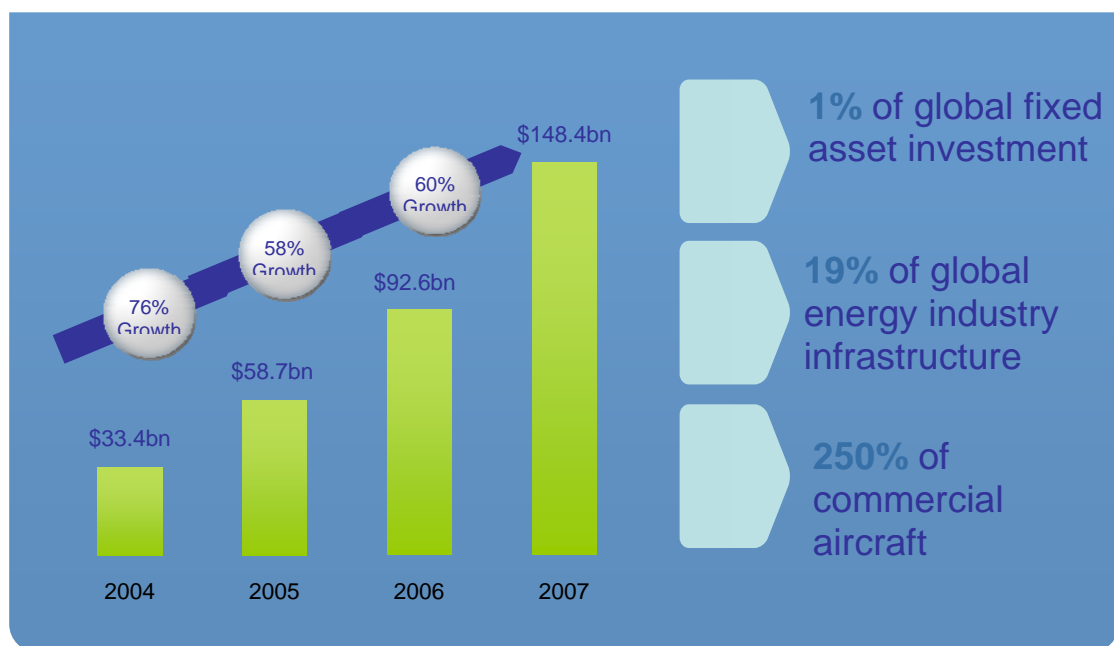
The clean energy sectors are growing rapidly as the public demands more efficient and lower-emissions energy generation, distribution and use. A recent report by *New Energy Finance*, found that clean energy investment grew by nearly 60 percent in 2005 and 2006 (See Table 1.).

In the U.S., rapid growth in these sectors is resulting in millions of new, high paying clean technology jobs – vital to the nation’s economic competitiveness and prosperity.<sup>iv, v</sup> Adoption of a federal climate change program that relies on existing clean energy technologies to reduce emissions could lead to millions of new jobs in these sectors.<sup>vi</sup> The aforementioned Department of Energy report on 20 percent wind energy projected that expanded deployment of wind energy would support nearly 500,000 jobs, including over 150,000 directly in manufacturing, construction and operations and would represent an investment in the U.S. economy of \$1 trillion.<sup>vii</sup>

This is consistent with public views on the economic benefits of higher utilization of clean energy technologies. A 2007 poll conducted for the Center for American Progress showed that 79% of respondents “believe that shifting to new, alternative energy production will help America’s economy and create jobs, not cost American jobs.” Only 17% disagreed.<sup>viii</sup>

Table I.

#### Total Global New Investment in Clean Energy, 2004 – 2007



Adjusted for reinvestment. Geared re-investment assumes a 1 year lag between VC/PE/Public Markets funds raised and re-investment in projects.

Source: New Energy Finance, IMF WEO Database, IEA WEO 2007, Boeing 2006 Annual Report

## APPENDIX B

### Increased Use of Existing Clean Energy Technologies Can Lower Consumer and Business Energy Costs

Deploying existing clean energy technology, such as renewable energy and supply-side and demand-side energy efficiency as soon as possible will help mitigate consumer impacts. As an example, when Congress considered a Renewable Electricity Standard in 2007,<sup>ix</sup> there were claims that retail electricity prices might increase dramatically. At that time, the Union of Concerned Scientists completed a report, entitled “Cashing in on Clean Energy”, which identified effects on consumer electricity prices and found that, in all 50 states, electricity rates were likely to fall, often significantly.<sup>x</sup> The report concluded that deployment of clean energy technology under that legislation would yield **\$13 billion to \$18.1 billion in savings in lower electricity and natural gas bills by 2020** (growing to \$27.7 billion to \$31.8 billion by 2030). This would result from a diverse supply of energy decreasing demand on finite natural gas resources and lowering the prices for those resources.

Another study, conducted by the American Council for an Energy Efficient Economy (ACEEE) found that a Renewable Electricity Standard of 15% renewable energy by 2015 when coupled with a cap-and-trade policy similar to the Lieberman - Warner Climate Security Act (S. 2191 and S. 3036) resulted in a **reduction of 1.5% in retail electricity rates by 2025**.<sup>xi</sup>

The Department of Energy report entitled, *20 Percent Wind Energy by 2030* found that expanding deployment of wind energy “potentially reduces demand for fossil fuels, in turn reducing fuel prices and stabilizing electricity rates.” DOE estimated the 20 percent wind scenario would avoid more than 80GW of new coal capacity and reduce demand for natural gas across all industries by 11 percent.<sup>xii</sup>

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<sup>i</sup> According to the McKinsey & Company report, “*Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost*” 2007, The U.S. could reduce greenhouse gas emissions in 2030 by 3.0 to 4.5 gigatons of CO<sub>2</sub>e using existing technologies.

<sup>ii</sup> Please see the Council’s website for a copy of its paper on federal offset recommendations,  
[http://www.bcse.org/files/BCSE%20Offset%20Principles%20Final.doc\\_0.pdf?phpMyAdmin=c3410f726d1c4bc885e0c67b3e06c97f](http://www.bcse.org/files/BCSE%20Offset%20Principles%20Final.doc_0.pdf?phpMyAdmin=c3410f726d1c4bc885e0c67b3e06c97f)

<sup>iii</sup> <http://www.eia.doe.gov/oiaf/servicerpt/s2191/index.html>

<sup>iv</sup> *Economic and Jobs Impacts of the Renewable Energy and Energy Efficiency Industries: U.S. and Ohio*, Roger H. Bezdek of Management Information Services Inc. for American Solar Energy Society, July 2007  
[http://www.ases.org/jobs\\_report.pdf](http://www.ases.org/jobs_report.pdf)

<sup>v</sup> Karen Ehrhardt-Martinez and John A “Skip” Laitner, *The Size of the U.S. Energy Efficiency Market: Generating a More Complete Picture*, American Council for an Energy Efficient Economy, May 2008 <http://www.aceee.org/pubs/e083.htm>

<sup>vi</sup> *New Energy for America*, Apollo Jobs Report, January 2004,  
[http://www.apolloalliance.org/downloads/resources\\_ApolloReport\\_022404\\_122748.pdf](http://www.apolloalliance.org/downloads/resources_ApolloReport_022404_122748.pdf), 7

<sup>vii</sup> *20% Wind Energy by 2030: Increasing Wind Energy’s Contribution to U.S. Electricity Supply*, U.S. Department of Energy, May 2008. Available online at <http://www1.eere.energy.gov/windandhydro/pdfs/41869.pdf>

<sup>viii</sup> John Podesta, Daniel J. Weiss, and Laura Nichols, “Americans Feel New Urgency on Energy Independence and Global Warming,” (Washington: Center for American Progress, 2007), available at  
[http://www.americanprogress.org/pressroom/releases/2007/04/environmental\\_poll.html](http://www.americanprogress.org/pressroom/releases/2007/04/environmental_poll.html)

<sup>ix</sup> A renewable electricity standard was considered as part of the Energy Independence and Security Act of 2007. That provision would have required utilities to obtain 11% of their power from renewable energy resources by 2020 and achieve a further 4% reduction from improvements in energy efficiency.

<sup>x</sup> *Cashing in on Clean Energy: A National Renewable Energy Standard Will Benefit the Economy and the Environment*, Union of Concerned Scientists, October 2007 Update, [http://www.ucsusa.org/assets/documents/clean\\_energy/Cashing-In-National-15.pdf](http://www.ucsusa.org/assets/documents/clean_energy/Cashing-In-National-15.pdf)

<sup>xi</sup> *Assessment of the Renewable Electricity Standard and Expanded Clean Energy Scenarios*, American Council for an Economic Efficient Economy, December, 2007, <http://aceee.org/pubs/e079PPT.pdf>

<sup>xii</sup> *20% Wind Energy by 2030: Increasing Wind Energy’s Contribution to U.S. Electricity Supply*, U.S. Department of Energy, May 2008. Available online at <http://www1.eere.energy.gov/windandhydro/pdfs/41869.pdf>